SOUTHERN RHODESIA.

Report

on

The Public Health

For the Year 1932.

… OF HYGIENE … 4 MAY 1933 & TROPICAL DISEASES

Presented to the Legislative Assembly,
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Report on the Public Health for the Year 1932.

Introductory.—As pointed out in my last report, 1931 was a record year from a point of view of the public health. While the anticipated rise in the number of deaths in 1932 was partly due to causes beyond our known powers of control, e.g., cancer, influenza, it is regretted that there was also an increased mortality from such preventable diseases as diphtheria, typhoid fever and whooping cough.

The general death rate approximated the average of recent years. The infant mortality rate, though higher than that of 1931, is still creditably low. The high Rhodesian birth rate is tending to fall, in conformity with that of other nations, but this fall is remarkably slow. The maternal mortality rate of Southern Rhodesia remains consistently high, and rose from 5 per 1,000 births in 1931 to 6 in 1932.

Although not a record year, the health of the Colony can be stated to be definitely good and to compare well with that of other British territories. The very low number of 40 cases of smallpox was notified.

During the year the Government have erected important additions to Salisbury Hospital to meet the growing needs of that institution. Extensions to Gwelo Hospital and Gwanda Hospital have also been commenced.

Special consideration has been given to the combating of malaria, which may be described as our major public health problem; to the treatment of mental disease, now a question of importance in the Colony; and to measures to cope with the scourge of leprosy among the native population. These matters are dealt with in detail in this report.

CHAPTER I.—VITAL STATISTICS.

(1) Population.

The estimated European population numbered 51,150. Owing to the larger number of deaths, the rate of natural increase fell to 13.32 per 1,000. This is still a satisfactorily high rate. The gross number of immigrants was 1,391, while the net immigration is estimated at 506.

(2) Births.

There were 1,166 European births in 1932, corresponding to an annual birth rate of 22.80 per 1,000 of the European population, a fall of .78 compared with the previous year. Of these births, 21 were illegitimate. The birth rates of recent years are given below and compared with those of the Union of South Africa and England and Wales.

European Birth Rates, 1921-32.

	Southern Rhodesia.	Union of South Africa.	England and Wales.
1921-30 (average)	24.6	26.6	18.3
1931	23.6	25.4	15.8
1932	22.8	Not available	15.3

The birth rate of Southern Rhodesia is thus slightly lower than that of the Union of South Africa, while the marked contrast with England is largely accounted for by the fact that the Colony contains a much higher proportion of persons of child-bearing ages. Although Southern Rhodesia shows the tendency of a diminishing birth rate common to most civilised communities, the present rate is nevertheless a high one.

(3) Deaths.

A. *Number of European Deaths.*—There were 485 European deaths in 1932, corresponding to an annual death rate of 9.48 per 1,000 of the European population—an increase of 1.16 compared with the previous year, which had the lowest death rate on record in the Colony.

The death rates of recent years are given below and compared with those of the Union of South Africa and England and Wales, the standardised rates being those altered to allow for differences of age and sex distribution in the countries concerned. This table shows that the death rate of Southern Rhodesia is slightly higher than that of the Union of South Africa and of England and Wales.

European Death Rates, 1921-32.

	Crude death rate, Southern Rhodesia.	Standardised death rate.		
		Southern Rhodesia.	Union of South Africa.	England and Wales.
1921-30 (average) ...	9.5	11.2	10.4	10.6
1931	8.3	8.8	Not available	10.2
1932	9.5	11.3	Not available	Not available

B. Causes of European Deaths.—The following table shows the causes of European deaths in Southern Rhodesia during the last five years. Details of these deaths are also given in Table I. at the end of this report.

Causes of European Deaths, 1928-1932.

Name of disease.	1932.	1931.	1930.	1929.	1928.	Totals.	Percentage of total deaths.
1. Cancer	49	23	52	32	42	198	8.64
2. Violence (all forms)	43	53	44	45	40	225	9.82
3. Heart diseases	43	49	39	43	24	198	8.64
4. Pneumonia and bronchitis ...	42	42	50	36	58	228	9.95
5. Malaria and blackwater fever ...	37	36	28	42	38	181	7.90
6. Nervous diseases	37	27	23	27	31	145	6.33
7. Premature birth and diseases of early infancy	24	24	23	26	32	129	5.63
8. Tuberculosis (all forms)... ...	17	15	19	16	23	90	3.93
9. Influenza	17	10	11	15	12	65	2.84
10. Diarrhœa and enteritis	14	14	16	17	15	76	3.32
11. Old age	10	5	10	11	8	44	1.92
12. Enteric fever	6	2	6	13	8	35	1.53
13. Diphtheria	6	2	3	5	3	19	.83
14. Dysentery	4	6	8	3	10	31	1.35
15. Whooping cough	4	1	2	6	4	17	.74
16. Measles	...	...	...	1	1	2	.09
17. Scarlet fever	...	...	...	...	...	...	...
18. Other causes	132	108	109	131	128	608	26.54
Totals	485	417	443	469	477	2,291	100.00

1. *Cancer.*—The number of deaths from cancer in 1932 was more than double that of the previous year. No special significance is attached to this, as cancer comes third over the period of five years, thus occupying the same position as it does in England and Wales.

2. *Violence.*—My previous reports have drawn attention to the high proportion of deaths from violence. Though definitely less than last year, the number is still unduly large.

3. *Heart Disease.*—Heart Disease, which heads the list of causes of death in England, ranks third in Southern Rhodesia, a country with a younger population.

4. *Pneumonia and Bronchitis.*—We know of no effective means whereby we can reduce the number of European deaths from pneumonia, a disease so prevalent in civilised communities that it has been given the title of "Captain of the Men of Death," originally applied by John Bunyan to consumption. In Southern Rhodesia pneumonia and bronchitis head the list of causes of death during the last five years. In England they rank second.

5. *Malaria and Blackwater Fever.*—Only three disease referred to above—cancer, pneumonia and heart disease—are responsible for more deaths in the Colony than malaria and blackwater fever. This important public health problem is discussed under the section dealing with malaria, Chapter II.

6. *Tuberculosis.*—The mortality from tuberculosis keeps consistently low, being eighth on the list of causes of death, whereas in England it ranks fifth.

(4) INFANT MORTALITY.

There were 64 deaths of European infants under one year of age, corresponding to an annual infant mortality rate of 55 per 1,000 live births. This represents an increase of 10 per 1,000 births upon 1931, which had the lowest infant mortality on record in the Colony. It is still 8 per 1,000 below the average for the previous five years. The infant mortality rates of recent years are given below and compared with those of the Union of South Africa and of England and Wales.

European Infant Mortality Rates, 1921-32.

	Southern Rhodesia.	Union of South Africa.	England and Wales.
1921-30 (average)	63	70	72
1931	45	63	66
1932	55	Not available	65

It will be noted that the infant mortality of Southern Rhodesia is much lower than that of the Union of South Africa and of England and Wales. The infant mortality rate is regarded as one of the most reliable indications of the social welfare of a country, and this low rate reflects credit upon the Colony and upon the mothers of its children.

Nevertheless it may be definitely stated that the infant mortality rate can and should be lower. And the facts given below indicate clearly the steps that can be taken to prevent this unnecessary waste of valuable infant lives.

European Infant Deaths, Table I.

Causes of Death, 1923-32.

Disease.	No. of deaths.	Percentage.
Premature birth and diseases of early infancy	239	38.55
Bronchitis and pneumonia	84	13.55
Diarrhœa and enteritis	75	12.10
Malaria	58	9.35
Measles, whooping cough, diphtheria, dysentery	36	5.81
Various, not classified above	128	20.64
Totals	620	100.00

European Infant Deaths, Table II.

Deaths during different months, 1923-32.

	No. of deaths.	Percentage.
First month	285	45.97
2 months to 6 months	193	31.13
6 months to 12 months	142	22.90
Totals	620	100.00

Neo-Natal Mortality.—It will be seen from the above that nearly half the deaths of babies under one year occur during the first month of life, chiefly from premature birth and congenital defects; in other words, from causes operating before birth. The remedy for this lies largely in ante-natal supervision and greater care of the expectant mother, a matter which is further discussed in the section dealing with maternal mortality.

Diarrhœa and Enteritis.—Nine babies died from diarrhœa and enteritis in 1932. This ailment usually occurs in babies who are not breast-fed and is commonly the result of an infection, often fly-borne. It is clear, therefore, that greater care with the food of bottle-fed babies is required.

Malaria.—Eight babies died from malaria last year. Malaria is a preventable disease, especially in the case of babies.

It will be seen that the steps required to save the lives of young babies are ones that are both simple and inexpensive. Proper care of the mother before birth, more care of the babies' food and protection from malaria are things which lie within the power of most families, and it must be pointed out that remedies which actually save the lives of some babies improve the health of all.

Valuable work in connection with child life is carried out, especially amongst the Asiatic and coloured population, by the Child Welfare Societies in our larger towns. These receive grants from the Government and from local authorities.

Infant welfare work possesses great possibilities in saving the lives and improving the health of children. In this connection the following paragraph in the report for 1931-32 of the Medical Officer of Health of Salisbury is of interest:—

> "One of the important functions of a health department is the reduction of infant and maternal mortality, and it is regretted that this department has no controlling interest in the activities of health visitors, which activities in the municipalities of the larger towns of the Union of South Africa and Great Britain are directly controlled by the M.O.H. This comment applies to European, native and mixed races."

The control of this work by municipalities has greatly increased its effectiveness in other portions of the British Empire, and it is hoped that the suggestion made by the Medical Officer of Health, Salisbury will be generally followed.

(5) MATERNAL MORTALITY.

There were 7 deaths of European mothers due to pregnancy and childbirth in 1932, corresponding to an annual maternal mortality rate of 6 per 1,000 live births. This is an increase upon the previous year and represents a high rate of maternal mortality. The maternal mortality rates of recent years are given below and compared with those of the Union of South Africa and England and Wales.

European Maternal Mortality Rates, 1921-1932.

	Southern Rhodesia.	Union of South Africa.	England and Wales.
1921-30 (average)	5.4	5.1	4.1
1931	5.1	4.7	4.1
1932	6.0	Not available.	Not available.

In marked contrast to our low infant mortality, it will be seen that the maternal mortality rate of Southern Rhodesia is higher than that of the Union of

South Africa, and considerably above that of England and Wales. The type of population in Southern Rhodesia is different from that of the Union, and it is submitted that the Colony is capable of producing a lower mortality rate.

A high maternal mortality rate not only involves the deaths of women at a time when they can perhaps least be spared; it has other consequences of the greatest importance. (1) A high maternal death rate implies a high rate of illness in mothers during and after childbirth, some of which is long and debilitating in character. (2) The causes which bring about a high maternal mortality result in a high proportion of still-births and a high neo-natal mortality, i.e., in a large number of deaths of infants during the first few weeks of life, and also in the birth of weakly infants, who thus start life with a handicap.

That many of the factors causing deaths of mothers in Southern Rhodesia are preventable can readily be demonstrated.

European Maternal Deaths, 1923-32.

Cause of death.	No. of deaths.	Percentage.
Puerperal sepsis	16	28.57
Accidents of pregnancy	12	21.43
Other accidents of childbirth	8	14.29
Puerperal hæmorrhage	8	14.29
Puerperal albuminuria	6	10.71
Other causes	6	10.71
Totals	56	100.00

Puerperal sepsis is much the largest factor. This is due to an infection, and is to a great extent a preventable condition. Accidents associated with pregnancy and childbirth also rank high. Many of these also are preventable. Albuminuria, which is responsible for 10 per cent. of the deaths, is a condition which lends itself to diagnosis and treatment in its early stages.

From this it can be seen what is required to protect the lives and the health of mothers, and, indirectly, of young babies. Greater care is needed during the period of pregnancy, and better conditions at the time of childbirth. These are discussed briefly below.

(1) *Ante-natal Care.*—The public does not sufficiently realise the need for supervision during the period preceding birth. It should be more widely known that many of the abnormalities occurring in connection with childbirth can readily be detected by a doctor, even quite early in pregnancy. Such abnormalities may be capable of treatment and remedy, thus preventing dangerous trouble at a later stage. It is essential that every women should place herself in the hands of her doctor as soon as she is aware that she is pregnant.

(2) *Provision of Hospital Beds.*—Long distances from medical facilities, combined with the lack of female assistance in the home, render the institutional treatment of confinements essential for many mothers living in a scattered Colony. Southern Rhodesia is fortunate in possessing a number of maternity homes which have come into existence through the generous response made by the Beit Trustees and by the Government to the wishes of enterprising groups of women in different parts of the Colony. Some of these maternity homes have attained the highest standard of buildings, equipment and staffing, and have a record of which they may be justly proud. It is regretted that there are others which fall below the minimum standard which should be expected.

In August, 1932, Sir Drummond Chaplin laid the foundation stone of a maternity home for Bulawayo. This is being erected by a local committee, of which Lady Russell is chairman, and towards it the Beit Trustees have contributed £8,000 and the Government £5,300. This home is being erected on a splendid open site selected by the Government on the outskirts of the town to be the future medical centre of Bulawayo. It is anticipated that a new Government hospital and other medical institutions will be erected on the ample space available. These will include a Government maternity hospital and training school for midwives. The Government have arranged with the committee that the maternity home will be handed over later and incorporated in this medical centre, thus effecting greater efficiency and economy in working.

(3) *Trained Midwives.*—The services of a qualified midwife to act either as midwife or maternity nurse are an essential part of the arrangements for childbirth, and lack of efficient service of this kind is recognised as one of the factors contributing to a high maternal death rate.

The present position in this respect must be deplored. Southern Rhodesia possesses excellent facilities for training general nurses, and now conducts its own examinations and issues its own certificates for trained nurses. This year the Government have been able to start a scheme for training their own mental nurses. But we have no facilities for training midwives.

Nursing is a popular profession in the Colony, and a large number of applicants of a high standard apply for the vacancies in our training schools, but to obtain the midwifery qualification it is necessary to leave the Colony and study elsewhere. This is financially impossible in many cases, and the result is that there are at present in Southern Rhodesia a number of untrained women carrying out the profession of midwifery. It is hoped that the scheme outlined above will before very long remove what at present must be regarded as a reproach upon our medical organisation.

The Colony is deeply indebted to the wise foresight of the Beit Trustees, who have done so much in the past for the mothers of the Colony, and without whose assistance the present scheme for maternity work would not have existed.

During the year the Government made annual grants amounting to £1,762 towards the maintenance of maternity homes, and further promises of capital grants have been made to institutions for building purposes.

CHAPTER II.—INFECTIOUS AND COMMUNICABLE DISEASES.

(1) Notification.

Notification of the more important infectious diseases is obligatory under the "Public Health Act, 1924," but is very incomplete. The following figures are taken from various returns, and, though not representing the full number of cases, are of interest as giving some indication of the infectious diseases prevalent, especially among the European population.

Infectious Diseases, 1932.

Name of Disease.	European Cases.	Native Cases.
1. Scarlet fever	21	...
2. Chickenpox	242	119
3. Whooping cough	94	14
4. Typhoid fever	37	22
5. Diphtheria	52	2
6. Measles	115	92
7. Rubella	8	...
8. Cerebro-spinal fever	2	9
9. Mumps	2	26
10. Erysipelas	10	1
11. Undulant fever (Malta fever) ...	2	...
12. Trypanosomiasis	...	1
13. Smallpox	...	40
14. Anthrax	1	2
15. Puerperal septicæmia	4	6

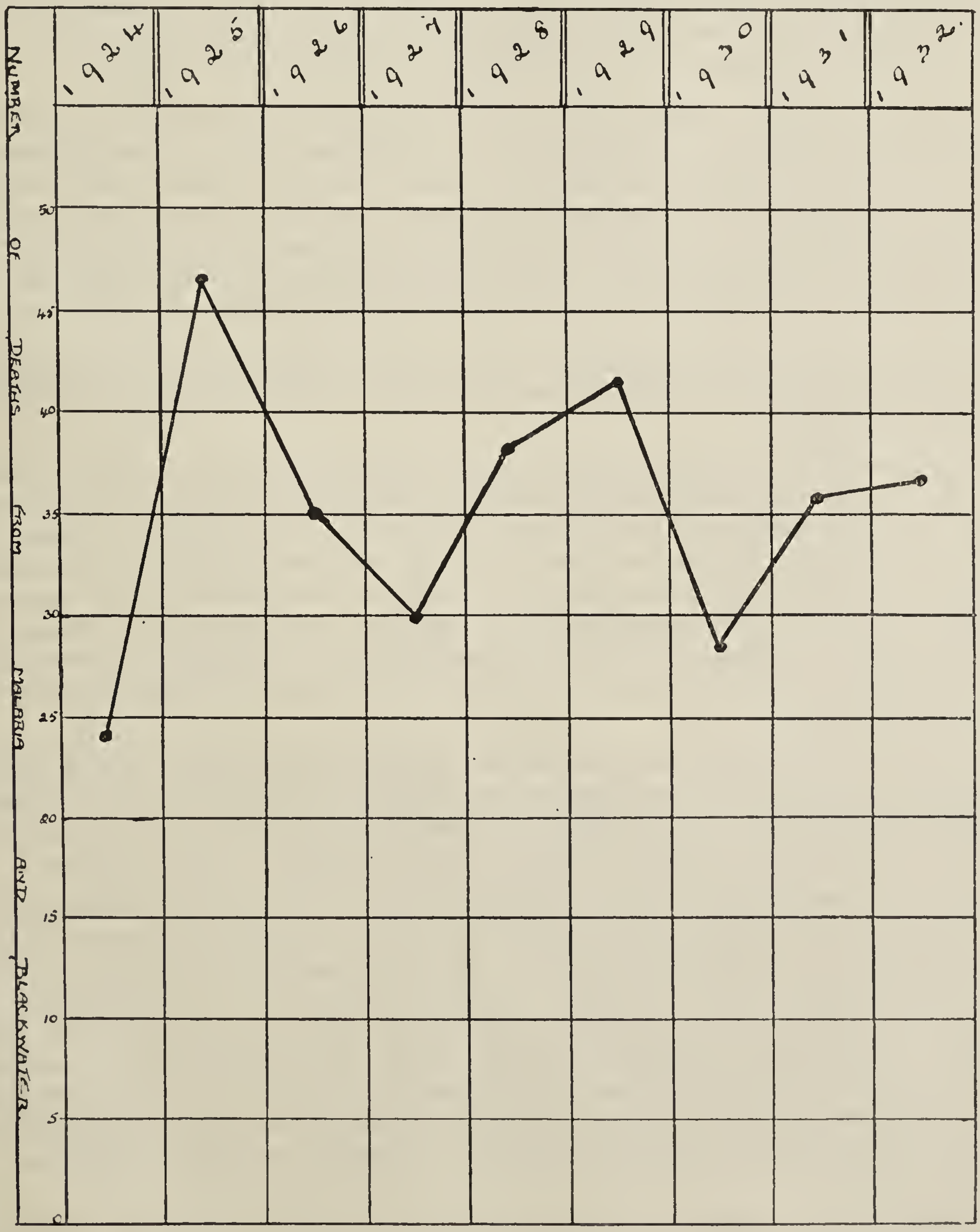
(2) MALARIA.

There were registered 25 European deaths from malaria and 12 from blackwater fever, making a total of 37. The deaths from malaria show an increase of one upon the previous year, those from blackwater are the same, and the total shows almost no variation from the average of recent years.

Over a series of years malaria and blackwater fever rank fourth among diseases as a cause of European deaths in Southern Rhodesia, for 8 per cent. of which they are responsible, including 8 per cent. of the deaths of young babies. Further, it is considered that the personal and economic damage effected by malaria is more serious even than the deaths it causes.

In some of our towns civilisation has almost entirely deprived the malaria-carrying mosquito of its breeding places. In other areas long familiarity tends to render the population despondent of escaping from the disease. Malaria is a definitely preventable disease, and it is clear that it constitutes what is perhaps the gravest public health problem of the Colony. In Southern Rhodesia our position in regard to it is stationary, as is shown by the following chart giving the deaths from malaria and blackwater fever since 1924.

Number of Deaths from Malaria and Blackwater Fever, 1924-32.



An average toll of 35 lives and a large amount of debilitating illness has taken place each year, and we have made practically no progress for a large number of years. It is therefore desirable to review the position in regard to malaria in some detail.

Species Sanitation.—When Ross revealed the mosquito cycle in 1897 it was hoped that a means had been provided which would enable malaria to be eradicated. This has proved possible in organisations such as mining areas and rubber plantations, where the extent of ground is limited, the employees under discipline and where financial resources are available to carry out and maintain costly works.

The process of civilisation has driven the anopheline mosquito almost completely from many towns, but in rural areas of the tropical and sub-tropical world malaria remains a scourge of mankind.

The position is that the object previously aimed at, that is, the eradication of all mosquitoes, has proved an insuperable task. In 1930-31 a great advance was effected by Professor Swellengrebel and his co-workers in the Union of South Africa, who narrowed down the issue in that region to two mosquitoes of limited breeding habitats. The majority of types of water and the majority of types of mosquitoes were shown to be harmless from the point of view of malaria. In other words, anti-malaria schemes which had previously presented a costly and almost hopeless task can be limited to measures which are simple and which do not require much money.

The occurrence of an unprecedented epidemic of malaria in the Union in 1931-32 afforded a unique opportunity of testing these views. Communities in highly malarial areas were kept virtually free from the disease as the result of well supervised sanitation in respect of these two species of mosquito.

Do the conditions which obtain in the Union apply to Southern Rhodesia? At the present stage of our knowledge it is impossible to say. Leeson's investigations in 1926-28 render it possible that this is the case. But much further investigation is required. The Government have therefore arranged for an expert medical entomologist to be employed during the coming year for the purpose of investigating the prospect, which species sanitation presents, of placing in our hands a simple and effective measure for attacking the malaria-carrying mosquito.

Chemotherapy.—It is desirable to refer briefly to the progress which has been made in combating malaria by means of drugs, which are considered to open up great possibilities.

Cinchona bark, of which quinine is an active principle, has certain grave defects as an anti-malarial specific. Without deprecating the value of a drug which for three hundred years has been, and still is, an inestimable boon to humanity, it must be pointed out that:—(a) Quinine does not destroy the malaria parasite as it enters the human body, though it may diminish or suppress symptoms. It is not a true preventative of malaria. (b) Quinine has little or no effect upon the final stage of the parasite, in which it is taken up by the mosquito and conveyed to another person. (c) Quinine has only a limited power of preventing relapses.

Intensive research has been carried out to discover drugs which will not only be effective against the fever stage of the parasite, but which will also destroy it during the stage when it first enters the body, during the stage when it is ready to leave the body, and during the stage in which it is liable to cause relapses.

Two synthetic drugs of importance have come to light:—(1) Plasmoquine, originating from methylene blue, destroys the final stage of the parasite and so prevents infection of further mosquitoes. Its action on the fever stage is similar to but not superior to that of quinine. Though effective as a preventative, it cannot be used for this purpose, as it is too potent a drug to be taken for long periods. (2) Atebrin, originating from one of the yellow acridine dyes, resembles quinine closely in its action, but is considered by many to be a more effective drug. It has also one great advantage over quinine, in that there is no evidence that it has the effect, accredited to quinine, of entering into the causation of blackwater fever.

Research on synthetic anti-malarial drugs is at present only in its early stages, but it opens up great possibilities for the future in connection with the treatment and prevention of this disease.

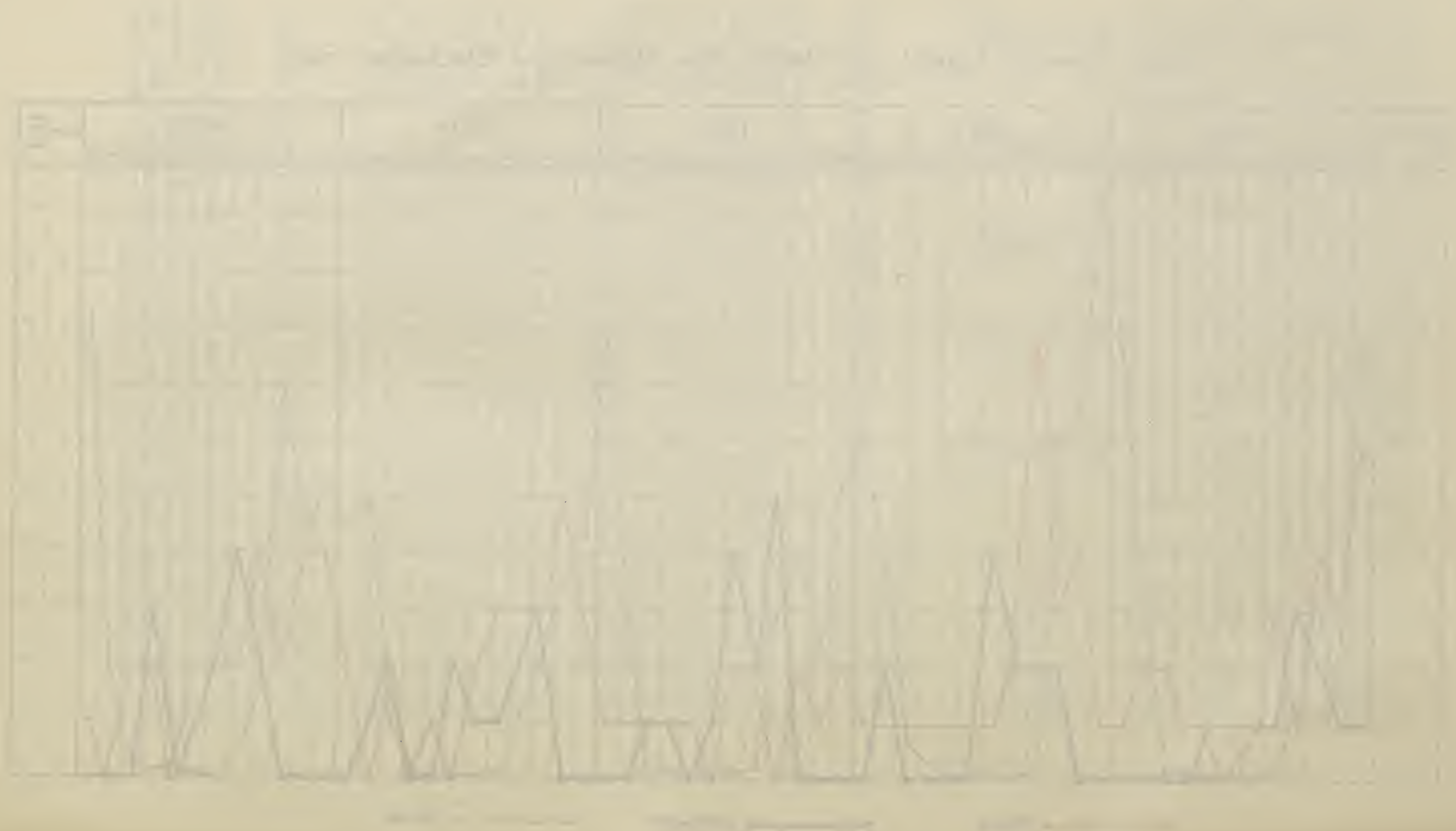
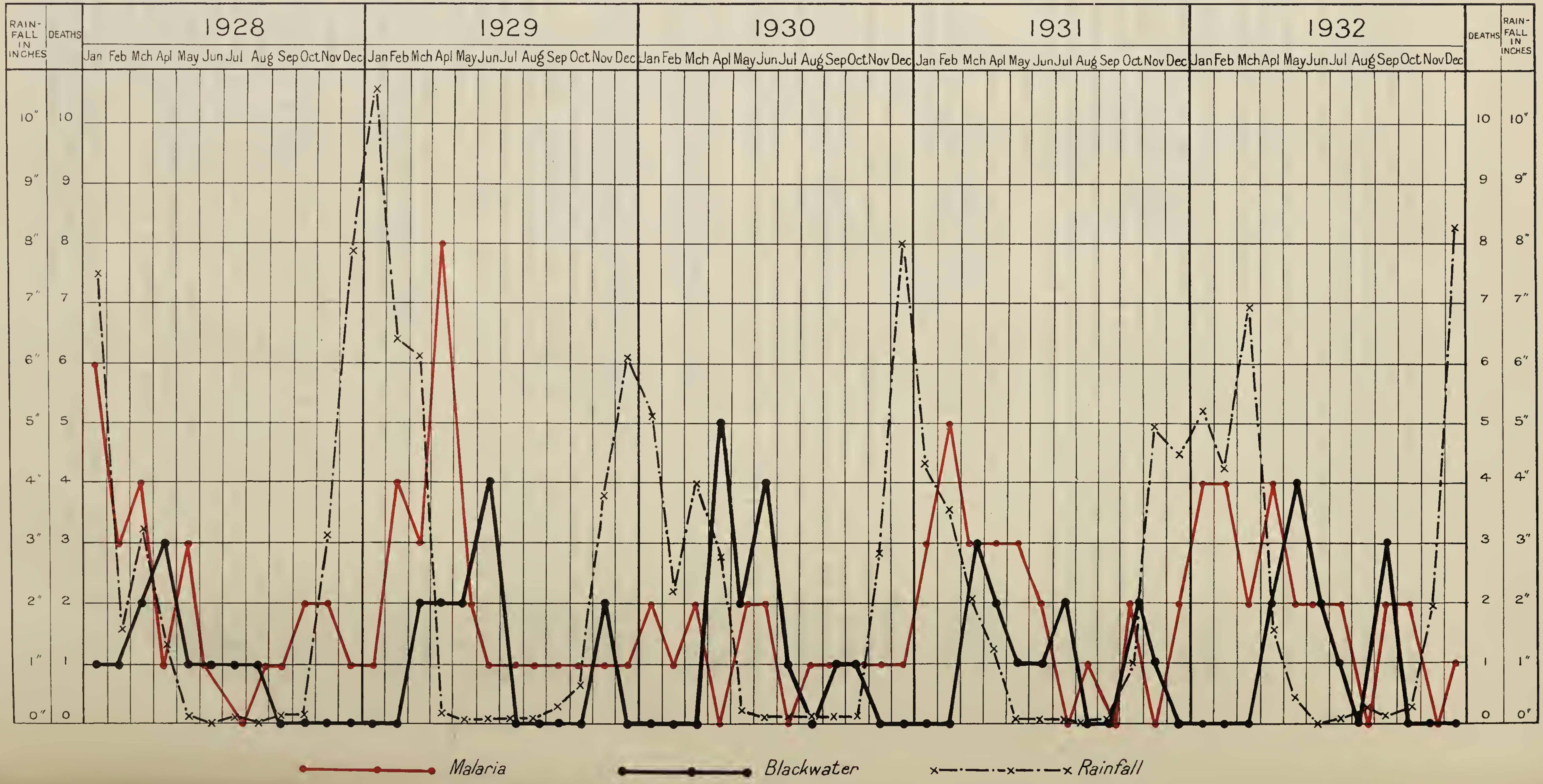


Chart Showing Rainfall and Deaths from Malaria and Blackwater Fever.



The number of bottles containing 100 tablets of five grains of quinine issued by the Government during the year was 11,480, as against 12,206 in 1931. Expenditure on quinine during the year was £2,152, and receipts £1,838. At present the Government are paying a considerably increased price for quinine issued to the public, owing to the fact that the gold standard is still adopted by the Dutch East Indies, which have practically a monopoly in the production of this drug. The loss thereby incurred is borne almost entirely by the Government.

The chart on the opposite page shows the relationship of rainfall and deaths from malaria and blackwater fever during the last five years.

(3) Leprosy.

The extension of medical work amongst natives has revealed, as was foreshadowed in my previous reports, that the incidence of leprosy in the Colony is greater than was previously realised. Apart from the harm which it does to the natives affected, the existence of a grave disease, which may readily escape detection in its early but infective stages, is a source of danger to the white community living in close contact with the indigenous population. The occasional occurrence of European cases, whether actually infected in the Colony or not, shows that such a danger is a real one. House contact is recognised as perhaps the most common method of transference of this infection, and is therefore a possible means whereby leprosy might be conveyed to the unsuspecting European.

Approximately 1,000 cases were treated during the year. The Colony has now two large leprosy hospitals containing nearly equal numbers of patients. One is at Ngomahuru, which is several years old and is now equipped with substantial and efficient buildings in the way of dispensaries, wards, offices, etc. The development of the Mtemwa leprosy hospital, which was formerly a most inadequate and unsatisfactory institution, has been delayed owing to difficulty in obtaining water. This difficulty has now been overcome, and it is anticipated that the institution will shortly be equipped with facilities for the effective treatment of the disease. In this connection the Government are indebted to the British Empire Leprosy Relief Association, who are anxious that Mtemwa hospital should be proceeded with as rapidly as possible and who have given a donation of £500 towards its development..

In addition to the two Government leprosy hospitals, a small leper institution is maintained by the Swedish Mission Hospital at Mnene, which is subsidised by the Government.

Details in regard to these hospitals are set out in the table below.

Lepers Treated in 1932.

	In hospital, 1.1.32.	Admitted, 1932.	Discharged or dead.	In hospital, 31.12.32.	Total cases treated in 1932.
Ngomahuru	340	184	124	400	524
Mtemwa (Mtoko)	322	90	48	364	412
Mnene	36	26	19	43	62
	698	300*	191	807	998

The British Empire Leprosy Relief Association kindly gave a grant of £200 for the purpose of enabling a further survey to be made of the incidence of this disease in the Colony. The Gutu district was chosen, and 9,698 unselected natives were examined. Nine lepers were found, or .92 per 1,000, a low incidence and one comparing favourably with that found in the similar survey of the Chibi
? district, when 7 lepers per 1,000 of the population were discovered. 1929 Report gives 5.1/1000

An interesting feature of the survey was the confirmation of the fact, already revealed in the examination of 6,814 Chibi natives, that syphilitic manifestations are comparatively uncommon—contrary to what is the popular opinion. Only 43 cases were diagnosed as showing spyhilitic lesions amongst the natives examined at Gutu. It was not, of course, possible to take blood tests, which would doubtless have disclosed further cases.

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* Includes 15 re-admissions.

Leprosy was discussed at the Health Conference of the League of Nations, held at Cape Town in November. It is interesting to note that the policy recommended by the Congress is the one which has been adopted in Southern Rhodesia, that is to say, voluntary measures are carried out as far as possible, but the Leprosy Represison Laws are retained and compulsión is exercised when necessary.

(4) PLAGUE.

Plague, unknown in South Africa till the year 1899, was brought in grain ships to Cape Colony and Southern Natal at the time of the Boer War, and has occurred at intervals in the southern areas of the Union ever since, especially in Cape Colony. It has extended as far as the Orange Free State and outbreaks have occurred in the Transvaal. Plague has never occurred in Southern Rhodesia as far as is known. Once plague has invaded a district it is most difficult to eradicate.

In 1932 the disease broke out extensively in Ovamboland in the northern portion of South-West Africa, on the same latitude as Southern Rhodesia, and crossed into Angola. It is the opinion of the Union authorities that the disease was carried in the course of the last two years by veld rodents across the Kalahari, through the Bechuanaland Protectorate, into South-West Africa. From there it is considered to have spread northwards on a front of at least a hundred miles.

In view of this apparent widespread extension of the disease northwards, the possibility of veld rodents carrying plague to the southern and western frontiers of Southern Rhodesia is one which must definitely be entertained. It is therefore necessary to maintain a careful watch on our frontiers concerned. For this purpose all police officers, Native Commissioners and Government Medical Officers in those areas were issued with detailed information in regard to the indications of the occurrence of animal or human plague, and arrangements were made for the bacteriological examination of rodents or human beings suspected to be suffering from the disease. Instructions were also given as to the best methods of exterminating rodents. So far there has been no sign of any outbreak in the Colony, but a close guard will need to be kept for a long time on the borders likely to be affected.

Plague is a disease which is spread from rodents (rat-like and hare-like animals) to human beings by means of fleas. It must be pointed out that the popular idea that rats alone are concerned is quite wrong. The following veld rodents have been identified as carriers of the disease: Gerbille, multimammate mouse, large-eared mouse, striped mouse, karroo rat, water-rat, ground squirrel or bushy-tailed meerkat, springhare, Cape hare and Zulu hare. Even the domestic mouse may convey plague and more rarely animals not belonging to the rodent family, such as the dog, cat, mongoose and suricat or stock-stert meerkat. A glance at this list will show how extremely difficult it may be to terminate an outbreak once a district has become infected.

(5) HELMINTHIASIS.

No special investigation of helminthic diseases has been carried out during the year, but the records of the Public Health Laboratory show that bilharzia disease still constitutes the main form of helminthiasis met with in this country.

Evidence of intestinal bilharzia disease was found in 3.5 per cent. of 372 Europeans examined, in 16.4 per cent. of 665 natives. Cases of bilharzial dysentery occur from time to time amongst both natives and Europeans, while gross enlargement of the liver and spleen apparently bilharzial in origin is occasionally met with in natives. Two European cases of bilharzial appendix occurred in the Salisbury Hospital during the year. Amongst 781 Europeans of all ages examined, 8.8 per cent. were found to be suffering from bilharzia disease of the urinary tract while 30.9 per cent. of natives (based on 893 examinations) were similarly affected.

Hookworm infection was found to be present amongst 14.3 per cent. of natives admitted to the Salisbury Native Hospital during the year, but only one European case of this infection was encountered. So far as the Salisbury district is concerned, gross hookworm disease does not appear to be common.

Infections with *Ternidens deminutus* continue to appear from time to time, but the pathogenicity of this parasite has not yet been fully ascertained.

Several other forms of helminthiasis are referred to in the report of the Public Health Laboratory, but these do not appear to constitute a serious menace to the health of the community.

(6) YAWS.

Numerous cases of this chronic infective disease are treated by the Government Medical Officers in the lower parts of the Colony, where it occurs widely amongst the native population. It is a serious ailment, but one which lends itself readily to treatment. There is no prospect of effectively reducing it until such time as the Government scheme for the medical treatment of natives can be extended.

(7) UNDULANT FEVER.

Two European cases of this disease—the same number as occurred in both of the previous years—were notified in 1932. No deaths were reported.

(8) TYPHUS FEVER. RABIES.

The Colony has for some years enjoyed immunity from these destructive diseases, thus contrasting with neighbouring less fortunate territories.

(9) TRYPANOSOMIASIS.

Only one case of human trypanosomiasis (sleeping sickness) was notified during the year, in a native from Portuguese East Africa. This patient was discharged cured from Shamva hospital after three months' treatment.

(10) PSEUDO-TYPHUS FEVER.

This disease, which was first recognised in Salisbury some seven years ago, has shown a tendency to become more common, and cases are now being recognised in other centres, such as Umtali, Sinoia and Bulawayo. Indeed, it is probable that it may be contracted in any part of the Colony.

The incubation period seems to vary from two to eight days from the bite of the tick, but diligent search has not yet definitely proved which species is responsible. The rash appears on the fourth day. The clinical course of the disease remains much as it was described in earlier reports, except that recently one or two cases have occurred in which the spots were petechial in character and the initial bite became markedly purulent. The severity of symptoms ranges from extremely mild pyrexial attacks to prolonged delirium with intense headache; but the outcome has been favourable, though convalescence is often prolonged. So far no death has been recorded other than one due to heart failure from long standing mitral stenosis during the course of the disease.

(11) SMALLPOX.

Only 40 cases of smallpox, all native, with no deaths, were recorded during 1932. The Colony has been remarkably free from this disease during the last two years, in which there were only 73 cases as against 1,124 in 1929 and 1930. Several outbreaks occurred during the year which were successfully overcome by efficient co-operation between the Government Medical Officers and the Native Commissioners of the districts concerned.

The above results are in no small measure due to the generous policy of vaccination carried out by the Government during recent years. Although 1932 was not an epidemic year, 34,563 vaccinations were performed, £616 18s. 11d. being expended on lymph.

(12) VENEREAL DISEASE.

Veneral disease occurs amongst the European population, but not to an excessive extent, and the incidence is probably less than that in Great Britain. These diseases also occur among the native population generally, both in the kraals and amongst those in European employment. It is probable that the proportion of gonorrhoea is higher relatively to syphilis than in England. We have no accurate knowledge as to the incidence among the natives, and the most widely divergent views are held. Some doctors of long exprience in the Colony consider that venereal disease is exceedingly common; others equally experienced are unwilling to subscribe to this view. In this connection the liability to confuse the later stages of syphilis and yaws must be borne in mind. Although there can be little doubt that the popular opinion as to its prevalence is exaggerated, it is certain that venereal disease does exist amongst the native population to an extent that is sufficiently serious to justify all possible measures being taken to combat it.

The Government maintain certain residential institutions throughout the Colony to which patients can be sent for treatment, while in other areas the Government Medical Officers deal with as many cases as is possible. Native venereal disease hospitals are maintained by the municipalities with the help of Government grants, for cases in their areas. Further, a large number of cases are treated by the Medical Missions, who also receive grants from the Government. Out-patient treatment is encouraged as much as possible. The Government spend some £6,000 per annum in this manner.

The specific medicines for the treatment of venereal disease are supplied to all institutions free of charge. These are expensive, costing 6s. for a normal course. The cost is increased by the fact that in-patient treatment is necessary in a large number of cases owing, firstly, to the distance often being too great for the native to attend as an out-patient, and also to the fact that out-patients tend to defeat the purpose of curing the disease by disappearing when the initial symptoms have cleared up, but before recovery is complete. The treatment of venereal disease is thus an expensive matter and probably amounts all told to nearly £1 per patient. It is therefore obvious that our present measures necessarily have a limited application.

It must be pointed out that these measures cannot be expected to be really effective in counteracting a disease which is so widespread, and all that can be hoped for from the small number of centres is to keep the disease under partial control in their neighbourhood and to cater for a limited number of bad cases from a distance. Venereal disease will not be effectively dealt with until the time comes when the Government is able to put into working a general scheme for the treatment of natives.

(13) Tuberculosis.

There were 17 European deaths from tuberculosis as against 14 in the previous year. This disease still occupies relatively to England a low position as a cause of death amongst the European population of the Colony. Tuberculosis among the native population is considered under the section dealing with the Health of the Native, Chapter III.

(14) Diphtheria.

There were notified 52 European cases of diphtheria during the year, with six deaths—all of young children. As the number of young children in the Colony increases diphtheria tends to become more prevalent, and the deaths last year appear to be the highest on record. Apart from immunisation, there is no known means of preventing the occurrence of this disease, which is to a considerable extent carrier borne. Its virulence shows no sign of diminishing.

Twenty years research has now perfected a method of immunisation against diphtheria which is painless, free from harm and effective. It compares favourably, for example, with smallpox vaccination in that the latter causes a mild though definite illness, whereas diphtheria immunisation causes no reaction of this kind. This method of immunisation has now spread throughout the civilised world with results which are most satisfactory.

No child need suffer from diphtheria and no child need die from diphtheria to-day. It is considered to be the duty of the State to see that every parent is cognisant of these facts and to secure that a supply of the necessary immunising agent is available. For this reason both branches of the British Medical Association were approached during the year, who gave their unanimous support and asked the Government to carry out the necessary publicity measures. A circular was then forwarded to the parents of every school child, pointing out the need for and the simplicity and safety of immunisation against diphtheria. Infant Welfare

Societies and other agencies dealing with children were also informed. The Press gave its wholehearted support and published descriptive articles in their weekly editions.

The material required for immunisation, anatoxin, is kept available at the Public Health Laboratory, Salisbury, and is issued at cost price, 7s. 9d., post free.

It must be pointed out that for the first few months of life a child usually inherits from his mother a rapidly waning immunity from diphtheria. This is followed by the most susceptible period, the child slowly acquiring immunity as he grows till at adult age he often possesses a more or less high degree of protection; though it must be emphasised that it is possible to contract diphtheria at any age, especially in the presence of massive infection. Eighty per cent. of the deaths from diphtheria in Southern Rhodesia during the last ten years have been of children under five years of age, and with one exception the remainder were of children between five and fifteen years of age. For these reasons it is recommended that children should normally be immunised before the most susceptible age is attained.

Although the above action was taken by the Government only in the last month of the year it has been met by a response far exceeding any anticipation. Enquiries have been received from all portions of the Colony and large numbers of babies and school children are now being immunised. It is hoped that this destructive disease will soon be relegated to the category to which it properly belongs, of diseases the danger of which no person need any longer fear.

(15) Typhoid Fever.

There were 37 cases of typhoid fever with 6 deaths among the European population. Typhoid fever also occurs quite frequently among the native population, but to what extent is not known.

(16) Cerebro-Spinal Meningitis.

There were 2 European deaths from cerebro-spinal meningitis, a disease also occurring to an unknown extent among the natives.

(17) Whooping Cough and Measles.

In England and Wales both whooping cough and measles are highly destructive diseases of early life, taking annually a large and approximately equal toll of lives. The better social conditions and possibly the climate of Southern Rhodesia appear to be adverse to measles, but have little effect in reducing the incidence or severity of whooping cough, as is shown by the following table:—

Cases and Deaths, 1928-1932.

	Cases.	Deaths.
Whooping cough	410	17
Measles	293	3

Whooping cough is a grave disease in Southern Rhodesia. Every possible step should be taken to prevent children from contracting it and from spreading infection to others should they unfortunately do so.

(18) Scarlatina, Chicken-pox, and German Measles.

Scarlatina, once a dreaded ailment, shows the same tendency in Southern Rhodesia as elsewhere to become increasingly mild. Though not an uncommon disease in the Colony there has fortunately been no death from it for a number of years. Chicken-pox is exceedingly common among the natives, which probably accounts for it being the most prevalent of all infectious diseases among Europeans in the Colony. The inconvenience and discomfort caused by such mild ailments as chicken-pox and German measles alone justify all possible preventative measures being adopted against them.

(19) Influenza.

The epidemic of influenza which occurred in the Colony in 1932 caused 17 European deaths. In certain localities this disease assumed a very virulent type.

CHAPTER III.—GENERAL.

(1) Mental Disease.

The Government has devoted much attention during the last few years to the problem of the treatment of mental disease, a matter which has grown in importance with the expansion of our population and with the progress of clinical medicine.

It is probable that Southern Rhodesia has as low a ratio of insane among its European population as any other portion of the Empire, a position towards which the young age distribution of the Colony doubtless contributes in part. Nevertheless the facts are sufficiently serious to merit grave consideration.

In 1932 the Government Mental Hospital at Ingutsheni treated 86 European and 347 native patients, a total of 433 cases. A few Europeans and a considerable number of natives are admitted from Northern Rhodesia. The policy in regard to natives is to admit only those who cannot be dealt with safely by their relations. The number of European patients increases every year and is now 30 per cent. above the figure of 1926, the first year in which the Colony undertook the treatment of all of its European lunatics, female cases having been sent previously to the Union.

The treatment of the insane has completely altered during recent years. This change culminated in the passing of the Mental Treatment Act, 1930, of England and Wales, which had two great objects in view: (a) The general principle of extending and strengthening the co-ordination of psychiatry and general medicine in every department—in the laboratory, the out-patient department and the hospital alike, and (b) to open freely to sufferers from mental disorder (subject only to necessary safeguards) the most appropriate means of treatment at the earliest possible moment.

The not unnatural horror with which both patients and their relatives regard certification has in the past resulted in patients being deprived of treatment at the time when it can be most effective, viz., in the earlier stages of the disease. In order to remove this barrier sections (1) to (4) of the English Act authorise the reception of voluntary patients into mental hospitals at the patient's own request and subject to his right to leave when he wishes. Section (5) of this Act contains the most important step in advance. Non-volitional cases, i.e., persons suffering from mental disease who are for the time being incapable of expressing themselves as willing or unwilling to receive treatment, but who may be cured by temporary admission to a mental hospital, can be admitted without the dreaded certification at the request of husband or wife or a relative and on the recommendation of two medical practitioners, one of whom is approved by the Government. Non-volitional patients may be admitted and detained against their will for a period of one month, after which their case is reviewed. Detention may be extended to six months, and further by three-monthly intervals at the request of the relatives, and subject to the approval of the Government, provided it is considered probable that the patient may be cured by such temporary treatment.

Apart from the above legal changes, the medical aspect of the treatment of the insane has made rapid advances, an advance which is reflected in the alteration of the name "lunatic asylum" to "mental hospital." Mental hospitals are to be regarded as places of cure, institutions where hope has been substituted for despair. In view of the size and importance to which Ingutsheni Mental Hospital has now attained and having in mind the considerations outlined above, the Government has decided that the time has come when it is necessary to appoint a medical officer to this institution who will have had first class experience of the treatment of the insane, and it is hoped that this appointment will be made during the present year.

(2) Spread of Disease by Aircraft.

In my last report the position with regard to the spread of communicable diseases, especially yellow fever, by aircraft was fully set out. The matter has been carried still further during the year under review by the Regional Conference of the League of Nations which met in Cape Town in November last and at which Southern Rhodesia was represented, as were also most of the other African countries interested.

This conference was made possible by the invitation and hospitality of the Government of the Union of South Africa, and its value was greatly enhanced by the presence of Sir George Buchanan, vice-chairman of the League of Nations Health Committee and President of the Office International d'Hygiene Publique, and of Dr. Sawyer, Associate Director of the Health Division of the Rockefeller Foundation, who is an expert on all matters relating to yellow fever.

As an outcome of the discussions, the conference decided that the Draft Convention for the Sanitary Control of Aircraft should be recommended to each of their Governments as being sufficient protection from the apprehended dangers and at the same time as causing a minimum of delay and discomfort to passengers. Steps are now being taken to formulate the necessary regulations and these will be so arranged as to achieve, as far as possible, uniformity with those to be in force in Northern Rhodesia, Bechuanaland Protectorate and the Union of South Africa. They will probably take the form of declaring Salisbury Aerodrome to be a Sanitary Aerodrome within the meaning of the Convention, and surveillance of passengers who have left an infected area within six days will be enforced.

As was mentioned in my last report, recent researches have shown that yellow fever may exist in an endemic form in native communities, but be unrecognisable clinically, though capable of reproducing the disease in virulent form in non-immune Europeans. The existence of such cases can only be determined by a somewhat prolonged laboratory technique and it is by this means that the Health Division of the Rockefeller Foundation is at present endeavouring to determine the topographical limits of the disease. Opportunity has been taken to collaborate with them for a trial survey of an area on the northern border (Mtoko) so as to prove the absence of yellow fever from this Colony.

(3) TOWN PLANNING.

During the past year the Committee to whom applications under the provisions of section 111 of the Public Health Act are referred for report, has dealt with 23 applications to sub-divide or lay out land for building sites, etc. These applications, which mostly concern land in the vicinity of the larger towns such as Bulawayo, Gwelo and Salisbury, range from simple sub-divisions of existing stands or plots, to extensive lay-outs of new townships.

The very rapid rate at which the sub-division of land is taking place and new suburbs are created just outside the boundaries of the larger towns, has been a matter of grave concern to the Committee, to whom it has become increasingly evident that such haphazard methods are the very negation of orderly and well-considered town planning. Each owner appears to be concerned with nothing beyond what lies within his boundaries, and if this is allowed to continue a state of affairs will be created that will destroy the effect of much of the good work done in the early planning of Rhodesian towns.

These villages are being planned without any co-ordination or regard for what may be the future developments of the towns, and yet those developments will undoubtedly be decided by them. No land is being reserved for future open spaces, parks or play grounds, and Southern Rhodesia may be said to occupy a unique position amongst present day communities in possessing no town planning legislation in a modern sense, the few clauses in the Public Health Act and the Municipal Act being quite inadequate for the purpose.

It is true that town planning is no new art, as is shown by illustrious examples such as Edinburgh, Washington and a number of older European towns. Nevertheless, town planning as it is understood to-day is a feature of the twentieth century, but so rapidly has it progressed that the principles of town planning and town planning legislation are now well defined and are of universal application, and the need for such legislation in Southern Rhodesia cannot be overemphasised.

A Bill has been carefully prepared which embodies these principles as applicable to Southern Rhodesia. This Bill has been discussed at two municipal congresses, and every effort has been made to obtain the views of interested persons. The measure is a short one, though the subject is too technical to be covered in a very short Bill, and the expense involved in bringing it into force will be negligible. One of the main objects of the Bill is to place in the hands of local authorities powers, which they do not at present possess, of effectively town planning both within and without their borders. It is hoped that this need will soon be met and that it will thus become possible to make proper provision for the present and future development of our towns.

The urgency of bringing suitable legislation into force will be more fully realised when it is mentioned that no less than 66 applications, under the town planning clauses in the Public Health Act, have been received during the last three years.

(4) HEALTH OF THE B.S.A. POLICE.

European Section.—During the year a total of 880 cases of illness and accident and 130 dental cases occurred, necessitating abstention from duty for an aggregate of 8,657 days. Both these totals are slightly in excess of those obtaining in 1931, but the increase may be ascribed to minor epidemics of influenza from which the larger stations suffered during the year.

Of the other causes of illness and loss of time, apart from the usual minor ailments, malaria claimed an even higher percentage than in 1931 and there was a regrettable return of blackwater fever to the list. On the other hand, it is satisfactory to record the continued low incidence of dysentery and also the fact that enteric fever reached a record low level of two. This latter may be taken as a satisfactory result of the policy of inoculation of all new recruits, which was introduced two years ago. Venereal diseases also reached a new low level of four cases, being .669 per cent. of the total strength.

There were two deaths during the year—one from blackwater fever and the other due to accidental drowning. There were fewer discharges medically unfit—only two having occurred during the year. One for a serious injury to the knee and the other for debility.

Native Section.—The decline in sickness in the native troops recorded last year was partially maintained, for, although there were 69 more cases, the number of days lost were fewer by 382, the actual figures being 1,327 cases and 11,904 days off duty.

Again malaria and influenza showed themselves as responsible for a very large percentage of the invalidism, whilst pneumonia was considerably less than last year. The number of cases of venereal disease (79) is practically the same as last year, but the number of days lost through this cause was less than for some years past.

Six members of the native police died during the year as compared with eleven in 1931.

General.—Taking the calculated strength of the European troops as 535 for the year, the number of days lost averages 17.1 per man; for the 943 native troops the corresponding figure is 12.6 days.

Whilst these figures show improvement on previous years, the grand aggregate shows a total of 20,471 days or 56 years of economic loss, and it is impossible not to believe but that by closer co-operation some of this can be prevented in the future.

(5) SCHOOL MEDICAL SERVICE.

The medical inspection of school children has been continued on the lines laid down during 1931, viz., a whole-time, highly experienced doctor visits the girls' schools and the schools in out-lying areas not readily accessible to the Government Medical Officers, whilst the latter carry out routine examinations of selected groups in the schools in their immediate vicinity.

It has not been found that this entails any loss of efficiency, whilst the financial saving is considerable. Indeed, there is a definite advantage in that, in most areas, the local practitioner is thus able to diagnose and treat departures from normal health at their earliest stage.

Mentally Retarded Children.—Dr. Clark tested 46 children during the year by means of the Stanford Revision of the Binet-Simon Tests. As a result 35 were classed as feeble-minded, 8 as normal and 3 as imbeciles.

The classes for mentally retarded children were continued in Bulawayo and Salisbury with considerable benefit to all concerned.

Physical Education.—The policy of providing physical training instructors at all the larger centres is now showing its full value and School Medical Officers report especially on the improvement in health of the school children who have been referred for remedial exercises for postural and developmental defects.

Results of Medical Examinations.—Children were examined in the same age groups as formerly—so that each child should undergo at least four routine examinations during the period of school life. Further, all children noted to have defects are re-examined the following year as well as any "special" cases thought to be requiring investigation by either their parents or the school authorities.

The defects noted in each age group are tabulated below.

Cases Recommended for Treatment, 1932.

4,415 Children Examined.

	Number referred for treatment.						
	Group 1.	Group 2.	Group 3.	Group 4.	Group 5.	Group 6.	Total.
	Entrants.	First Intermediates.	Second Intermediates.	Leavers.	Re-examination.	Specials.	
Malnutrition	14	5	6	4	1	...	30
Uncleanliness	...	...	...	1	1	...	2
Bilharzia	6	2	5	3	6	3	25
Skin—							
Ringworm	...	...	1	...	...	...	1
Impetigo	1	...	1	...	2	...	4
Veld Sores	3	2	4	1	1	...	11
Other diseases	2	1	2	2	2	1	10
Eye—							
Blepharitis	5	...	3	1	6	...	15
Conjunctivitis	1	2	6	5	5	...	19
Defective vision ...	22	13	21	23	42	15	136
Squint	2	1	4	1	4	2	14
Other conditions ...	3	3	4	1	6	3	20
Ear—							
Defective hearing ...	6	7	2	5	11	1	32
Otitis media	1	...	...	...	1	...	2
Other ear diseases ...	3	1	...	3	1	...	8
Nose and Throat—							
Enlarged tonsils ...	46	25	16	21	63	4	175
Enlarged tonsils and adenoids	5	6	3	1	13	...	28
Defective speech ...	1	...	...	...	1	2	4
Other defects	44	10	15	9	30	4	112
Heart—							
Organic disease ...	3	...	1	1	2	...	7
Functional disease ...	4	1	2	2	1	1	11
Anaemia	3	1	1	1	2	...	8
Lungs—							
Bronchitis	...	2	1	...	...	...	3
Other non - T.B. diseases	3	1	...	2	3	...	9
Tuberculosis—							
Glands	...	...	...	...	...	...	...
Hip	...	...	...	...	...	...	...
Other bones and joints	...	...	...	...	...	...	...
Nervous System—							
Epilepsy	...	...	...	1	1	2	4
Chorea	2	1	...	...	1	...	4
Other conditions ...	1	1	3	...	1	...	6
Spleen—							
Much enlarged	16	2	4	...	19	...	41
Slightly enlarged ...	7	1	5	...	5	3	21
Other diseases and defects	28	11	18	15	36	12	120

It will be seen from this list that the principal items calling for comment are:—

1. *Malnutrition*, most of which was evident in entrants and probably the result of the financial depression of the Colony generally.
2. *Splenic Enlargements*, practically all of which are due to malaria and as such are to a considerable extent preventable if proper precautions were taken by parents.

Otherwise the only inference to be drawn is that the health of the school children is satisfactory.

Work of the School Dentists.—Owing to the fact that for seven months of the year under review there was only one whole-time Government dental surgeon available for duty, the total number of dental examinations and treatments fell considerably below the figures for 1931, but, in proportion, a relatively greater amount of work was performed.

The actual figures were:—

Number of children examined	1,640
Number of children treated	744
Number of fillings: Temporary teeth, 97; permanent teeth, 1,026	1,123
Number of extractions: Temporary teeth, 855; permanent teeth, 271	1,126
Other operations	153

(6) GOVERNMENT DENTAL SERVICE.

The work of the two whole-time dental surgeons employed by the Government was re-organised during the year under the direction of Mr. R. Woodcock, the Senior Government Dentist. Hitherto their duties had been confined to the examination and treatment of school children. These have now been extended to (1) the dental treatment of the B.S.A. Police (excluding artificial teeth), (2) the annual routine examination of members of the police force, and (3) the carrying out as far as possible of essential work for paupers and for prisoners in gaol. Most of these duties are carried out during school holidays, and out of school hours during term time.

In the past, cases among the police requiring dental treatment were sent to private dental practitioners and paid for by the Government on a fee basis. A considerable economy has thus been effected. The annual dental examination is a new feature and was instituted on the advice of the senior dentist owing to the large numbers of police who, though entering the Service with satisfactory mouths, have in the past allowed their teeth to get into such a condition that false teeth had to be provided by the Government and repaired when broken. The Government dentists now examine and, if necessary, treat all police within reach, in conjunction with their school work when touring the country, and, further, all police visiting Salisbury and Bulawayo on duty or passing through on transfer are sent to the Government dentist for examination. This preventive work is specially valuable, as, apart from the expense of artificial dentures, it is considered desirable that the wearing of false teeth by the police should be reduced to a minimum. It is hoped that every member of the Force will be examined once a year.

Dental surgeries have been equipped in the Government buildings at Salisbury and Bulawayo. Although only commenced late in the year, these measures have proved most repaying, as is shown by the following details of the work done by the end of 1932:—

Number of patients	183
Number of appointments	504
Number of fillings (permanent)	232
Number of fillings (temporary)	64
Number of extractions	43
Number of scalings	72
Number of root treatments	9

Below are particulars of work carried out for free patients at the surgery, Government hospital and gaol, Salisbury:—

Number of extractions	131
Number of fillings	9

(7) The Health of the Native.

All the Government hospitals have efficient native departments attached. As these are mostly in towns, their sphere of influence is confined chiefly to natives in employment in the neighbourhood. Outside the towns a limited amount of treatment is supplied by subsidised mission hospitals and Government dispensaries. These, though excellent as far as they go, are mostly small and few in number. The greater portion of the native population is devoid of any means of medical treatment.

How real is the need for medical treatment can readily be ascertained from the evidence of experienced officers of the Native Department, and if such treatment is wisely administered the natives are not slow to avail themselves of its advantages, though they still retain their dread of coming as patients to a large hospital.

A system of dealing with the health of the native by means of outlying dispensaries, in charge of native orderlies under the supervision of European doctors, is inexpensive and rapidly acquires the confidence of the native. A number of such dispensaries can be controlled by one Government Medical Officer, and can cover a very large area. Work on these lines has already been started at Ndanga and in the Mtoko area, where the results are exceedingly encouraging and the monetary outlay small.

Tuberculosis.—Little or nothing is known as to the incidence of tubercular disease among the Bantu tribes prior to their contact with European races. It is probable that it was rare under their primitive conditions. It is, however, clear that tubercular infection had taken a firm hold amongst them comparatively early in the nineteenth century. The extent to which tuberculosis exists at the present time amongst South African natives has recently been the subject of extensive research. It has hitherto been widely held that natives came to the mines free from tubercular disease and acquired the infection there. It has now been shown that tubercular disease is much more widely spread amongst the Bantu races under their natural conditions than had hitherto been supposed, 72 per cent. of recruits applying for work in mines in the Union being found to give evidence of having already acquired infection. Such infection may develop into obvious disease owing to the change of conditions and stress of work undergone in the mines, or through super-infection from close contact with other cases.

It is considered by no means improbable that tubercular infection exists more widely than has been realised amongst the indigenous natives in Southern Rhodesia, and it is hoped to investigate further this matter in the two areas of the Colony where the Government have established a scheme for the treatment of the native.

(8) Native Labour on Mines and Works.

The average number of natives employed on mines throughout the year was 36,068, an increase of 866 on 1931. It is satisfactory to record that amongst an increased number of employees there was a greatly diminished number of deaths from sickness. The chief factor in this decrease was a 22 per cent. drop in the mortality from pneumonia, which is by far the most serious of all diseases amongst the natives employed on our mines. There was a slight increase in fatal accidents, which numbered 94.

An experienced officer of the Native Department, specially chosen for this difficult work, is attached to my staff as Inspector of Compounds. The advantage both to the mine owners and to the employees of an officer of this kind cannot be over-estimated. In view of the many small workings which have recently been opened, it is probable that the services of a second Compound Inspector may be required, as was formerly the case. A large number of warnings had to be issued during the year, and such warnings nearly always sufficed to remedy the difficulty in question. These warnings dealt with many different matters, such as failure to issue the minimum ration as laid down by law, bad housing or latrine accommodation, non-payment of wages, etc. The Compound Inspector also visits large works other than mines when considered necessary.

Nine cases of pellagra occurred on one small mine. This mine had recently changed hands when the outbreak occurred, and at the time the employees were being properly fed and well housed. It is, however, possible that the diet previous to that time had been such as would produce a deficiency disease. All the patients made a good recovery and there have been no further cases.

The following tables give details in regard to sickness and mortality amongst native employees on mines:—

Table I.—Natives on Mines.

Cases of Sickness, Deaths and Death Rates, 1932.

Disease.	Total sick.	Total deaths.	Death rate per mille per annum.
Malaria	2,144	10	0.28
Scurvy	31	3	0.08
Syphilis	501	15	0.42
Pneumonia	865	167	4.63
Phthisis	56	34	0.94
Other diseases of chest	946	11	0.31
Dysentery	123	12	0.33
Diarrhœa	164	...	...
Other intestinal diseases	95	10	0.27
Heart disease	20	15	0.42
Debility	128	2	0.06
Influenza	4,702	10	0.28
Other diseases	1,504	54	1.50
Minor ailments	8,670	...	...
Total	19,949	343	9.51
Accidents and Injuries—			
Major	241	94	2.61
Minor	6,763	...	...
Total	26,953	437	12.12

Table II.—Natives on Mines.

Comparative Statement of Mortality, 1928-32.

	1928.	1929.	1930.	1931.	1932.
Average number employed ...	43,703	46,981	45,342	35,202	36,068
Disease—					
Number of deaths	756	876	687	444	343
Death rate per mille per annum	17.30	18.65	15.15	12.61	9.51
Accidents—					
Number of deaths	94	110	98	87	94
Death rate per mille per annum	2.15	2.34	2.16	2.47	2.61
All Causes—					
Number of deaths	850	986	785	531	437
Death rate per mille per annum	19.45	20.99	17.31	15.08	12.12

(9) Laboratory Services.

PUBLIC HEALTH LABORATORY AND PASTEUR INSTITUTE, SALISBURY.

On February 1st, 1932, Dr. Blackie, of the London School of Hygiene and Tropical Medicine, who had previously carried out research work on helminthology in the Colony, commenced duty as Director of the Public Health Laboratory, and the work of the laboratory was reorganised. Year by year our knowledge of the science of medicine increases, and there is a corresponding increase in the work of the laboratory and a closer alliance with the clinical physician. This is illustrated by the fact that 13,305 examinations were carried out in 1932. The growth of knowledge is also reflected in the greater use of sera and vaccines, the demand for which has largely increased.

Dr. Blackie reports as follows:—

1. Bacteriology:

A total of 474 urines, 266 stools and 44 specimens of blood were cultured. In many cases detailed biochemical and serological studies were made on the organisms isolated. A complete bacteriological analysis was carried out on 10 samples of milk and 25 samples of water. *Throat Swabs*: 338 throat swabs were examined and cultured for the presence of Klebs Loeffler bacilli and a positive cultural result obtained in 55 instances. *Sputum*: 147 samples of sputum were examined by the antiformin concentration method for *B. tuberculosis*, and the bacillus found in 14 cases. *Smears*: 269 urethral and 42 cervical smears were examined for the presence of gonococci. *Pus*: 56 samples of pus from abscesses, etc., were examined and cultured. It is of interest that in 6 cases *B. anthracis* was demonstrated in relation to pustular lesions of the skin. *Vaccines*: 115 autogenous vaccines were prepared and issued in the course of the year.

2. Serology:

Agglutination Tests: 308 agglutination tests were carried out during the year. A diagnostic agglutination titre was obtained with B. typhosus antigen on 22 occasions, twice with *B. paratyphosus* A antigen, and 7 times with the Brucella antigens. *Complement Fixation Tests*: The Wassermann Test was performed on 1,115 sera, of which 363 gave a strongly positive reaction, 56 a positive reaction, 57 a doubtful reaction and 639 were negative.

3. Pathology:

Post-mortem Examinations: 193 post-mortem examinations were performed during the year, 33 of which were for medico-legal purposes. The following findings of special interest may be mentioned:—Primary cancer of the liver (4 Native cases); Primary tumour of the spleen (3 Native cases); Cerebral cysticercosis (1 Native case).

Histological Examinations: A full histological report was issued on 164 sections prepared from material obtained at operations or at post-mortem examinations. In addition, a large number of sections were prepared for purposes of special study.

4. Parasitology:

Faeces: 1,037 specimens of stool were examined for evidence of parasitic infection (European specimens 372, Native specimens 665). The following is the summary of the number of cases of protozoal or helminthic infection encountered: *Protozoa.* Europeans: *Entamoeba histolytica*, 3; *Endolimax nana*, 3; *Iodamoeba bütschlii*, 1; *Giardia lamblia*, 2; *Trichomonas intestinalis*, 2. Natives: *E. histolytica*, 1; *Balantidium coli*, 1; *T. intestinalis*, 1. *Helminths* Europeans: *Bilharzia mansoni*, 9; *B. haematobium*, 4; *Taenia sp*, 4; Hookworm, 1; *Strongyloides stercoralis*, 1; *Ternidens deminutus*, 1; *Trichuris trichiura*, 1; *Oxyuris vermicularis*, 4; *Heterodera radicicola*, 1. Natives: *B. mansoni*, 102; *B. haematobium*, 7; *Taenia sp*, 7; *Hymenolepis nana*, 7; Hookworm, 95;

Strongyloides stercoralis, 17; *Ternidens deminutus*, 12; *Ascaris lumbricoides*, 5; *Trichuris trichiura*, 2; *Physaloptera sp*, 1; *Trichostrongyle sp*, 1; *Heterodera radicicola*, 1.

Urine: 1,764 specimens of urine were examined for evidence of bilharzia infection with the following results:—*Bilharzia haematobium*: Europeans, 69 cases (8.8%); Natives, 241 cases (30.9%). The eggs of *B. mattheei* were found in the urines of 6 natives and a mixed infection of *B. mansoni* and *B. haematobium* in one case.

Blood: *Malaria*: 979 blood films were examined for the presence of malaria parasites and 170 positive results recorded. As in previous years *Plasmodium falciparum* constituted the great majority of the infections. *P. vivax* was found on one occasion and *P. malariae* on another. *Trypanosomes*: 3 blood films were examined for trypanosomes with negative results. *Filaria embryoes*: 17 blood films were examined for evidence of filarial infection and the embryoes of *Filaria bancrofti* demonstrated in 2 cases (1 European and 1 Native). Both patients had lived for considerable periods in Northern Rhodesia.

5. BIOCHEMISTRY:

A marked increase in the biochemical work of the Laboratory occurred during the year. A total of 462 tests were carried out and the range and variety of these tests can be ascertained from the following summary:—

Blood examinations: Sugar, 59; non protein nitrogen, 24; urea, 31; cholesterol, 5; chloride, 3; serum calcium, 12; phosphate, 10; bilirubin, 49. *Cerebrospinal fluid*: Colloidal Gold test, 8; Nonne Apelt test, 3. *Fractional test meals*, 88. *Urine*: Urea concentration test, 26; blood and urobilin, 88; glucose (quantitative test), 15; quinine, 4; diastatic index, 1; veronal, 1. *Faeces*: Occult blood, 26; fat analysis, 1; bile pigment, 1. These figures clearly indicate the extent to which biochemical tests are now being utilised in the study and diagnosis of disease conditions in the Colony.

6. CLINICAL PATHOLOGY:

Blood: Blood counts: 563 full blood counts were made in the course of the year, and it is of interest to note that in assessing degrees of anaemia at this altitude (4,500 feet) an average red cell count of 5,500,000 per cubic millimetre must be allowed for adult males and 5,200,000 for adult females. The fragility test was carried out on 6 occasions and the coagulation time ascertained in 4 cases. *Blood grouping*: The blood of 67 young adult males was grouped for purposes of blood transfusion. A small transfusion service composed of 70 individuals has been instituted and in the course of the year 31 blood transfusions were carried out, chiefly in cases of blackwater fever. *Urines and Exudates*: A general chemical and microscopic examination was carried out on 1,815 specimens of urine and on 30 exudates from serous cavities. *Skin Tests*: The following intracutaneous tests were performed during the year:—Mantoux tests, 4; Casoni reaction, 1; Fairley's intradermal test for bilharzia disease, 1; Protein sensitization tests, 7.

7. BIOLOGICAL TESTS:

Tuberculosis: 7 guinea-pig inoculations were carried out (sputum, 5; urine, 2), and 2 positive results obtained. *Diphtheria*: 4 Virulence tests were performed and 3 positive results obtained.

8. PASTEUR INSTITUTE REPORT:

The brain of a dog was submitted by the Portuguese authorities for the demonstration of Negri bodies. Unfortunately the brain was in such an advanced stage of decomposition that the usual tests could not be carried out.

A total of 21 courses of anti-rabies vaccine were issued and 800 c.c. of vaccine prepared in the course of the year.

W. K. BLACKIE, M.D.

Report of the Director, Bacteriological Institute, Bulawayo.

Dr. G. R. Ross reports as follows:—Total number of investigations, 2,235. The investigations were divided among the various authorities as follows:—Government, 854; Railway, 468; Municipal, 127; Private, 786.

During the year the algal infestation of the Khami water supply was the subject of special investigation. While the water was of excellent quality from the bacteriological point of view growth of a species of Anaboena in the dam produced a taste and smell which rendered the water unpalatable. Methods were eventually evolved which overcame the infestation.

Report of the Government Analyst, Salisbury.

During part of the year the Government Analyst, Mr. A. W. Facer, F.I.C., was absent on leave, and the work was carried out by Miss Craig, certain portions being performed by the Chief Chemist of the Agricultural Department, while the Director took charge of the section of biochemistry.

Mr. Facer reports as follows:—During the year 381 samples were examined. The samples were of the following natures:—Toxicological, 128; police exhibits for blood and other stains, 39; hop beers, 12; water, 40; sewage effluents, 22; milk, 87; butter, 2; cream, 1; ice cream, 3; cheese, 6; spirits, 8; condensed milk and milk powders, 3; condensed cream, 1; soap, 1; miscellaneous, 28.

Toxicological and other Forensic Work.—This, the most important and exacting section of our duties is steadily increasing, and it is often found that the results of our investigations furnish prime evidence in charges of murder, assault, theft, arson, etc. With one exhibit twenty tests, occupying several days, were performed before a reaction for blood could be obtained from an axe-shaft associated with a suspect who was subsequently charged and found guilty of murder.

Milks.—With occasional lapses the improvement in milk quality which has been observed during the last year or two, continues. The vendor of one sample which was found to be below legal standard was fined £5.

Hop Beers, etc.—About two years ago the sale to natives in towns of intoxicating liquors under the name of Hop Beers was becoming a serious nuisance, but analysis of trap purchases made by the Criminal Investigation Department, leading to very heavy fines, appears to have stamped out the evil, and this year no action was found necessary with regard to any of the trap samples which were dealt with. The fact that the art of distillation is known to certain of our natives was proved by the analysis of the two samples of a native liquor called "Kachasu," which were found to contain 45% and 43% respectively of proof spirit. In one case prosecution led to conviction and a fine of £4. One of the miscellaneous examinations was proof of the fraudulent insertion of certain words in a document.

The branch continues to act as the analytical referee for the Customs Department, and to furnish information on a variety of subjects to Government Departments and to members of the public.

CHAPTER IV.—HOSPITALS.

During the year under review there was a slight rise of 333 patients in the total number of admissions to the Government Hospitals, but the figure is still 560 below the total for 1930. Details are shown in the following table:—

Admissions.

...	1930.	1931.	1932.
Europeans	5,272	5,093	5,369
Natives	8,180	7,466	7,924
	13,452	12,559	13,293

In-Patients.—From this it will be seen that the diminution in European admissions noted in last year's report has been made good, but that the native figures are below those of 1930. The explanation of this lies in two facts:—The opening of a special Native Hospital in Bulawayo for employees of the Railway Administration and the greater development of the out-patient facilities in the larger centres. In 1931, for instance, the native out-patients in Bulawayo numbered 3,521, whereas in 1932 there were 5,621.

Out-Patients.—During 1932, 8,594 European and 13,487 native out-patients attended at the Government Hospitals.

Salisbury Hospital.—The number of European admissions rose by 46 to 1,925 on the figures for 1931, but were 57 less than in 1930. Native admissions continued to decline; the figures being 1,426 in 1932; 1,521 in 1931; and 1,635 in 1930. In the Out-Patients' Departments, 3,334 Europeans and 3,261 native patients were dealt with. The X-Ray Department in 1932 investigated 1,526 patients, being 602 more than in the previous year. The new X-Ray plant has proved highly satisfactory.

1933 Report quotes 1072 for this figure

The Operating Theatre: Total operations performed numbered 1,433, of which 487 were major and 946 minor. The corresponding figures in 1931 were: Total 1,378, of which 444 were major and 934 minor. Plans have been approved for a new operating theatre on modern lines, with spacious sterilising room, doctors' room, etc.

During the year progress was made with the building of an additional wing which will complete the original plan of the European Hospital. In this will be housed a Children's Ward of 15 cots on the ground floor and a suite of private rooms with balcony upstairs. It is hoped that the wing will be ready for occupation early in 1933. It will enable a side ward of 3 beds to be brought into use for the Female Wards.

Bulawayo Hospital.—The European patients admitted (1,690) show a continued rise, being 47 more than in 1931 and 151 more than 1930. Native admissions continue to decline; 1,597 admissions being 160 less than in the previous year. This decline may be attributed to the increased use of the Out-Patient Department which recorded an increase of 2,100, the total being 5,621. European out-patients increased by 299 to 4,027. Patients numbering 897 attended the X-Ray Department as against 1,108 in 1931. This was probably due to more use being made of other facilities in the town. In the Physiotherapeutic Department 2,089 treatments were carried out on 197 patients, an insignificant decrease on last year's total.

1931 quotes 1032

A total of 1,464? operations were performed during the year as compared with 1,302 the year before. These may be analysed thus:—European operations: (Major, 420; minor, 569. Native operations: Major, 131; minor, 255.) = 1,375

The European Hospital accommodation remains the same at 110 beds, but the Asiatic and coloured unit has been increased from 7 to 24 beds by the erection of an entirely new block. These improved amenities are much appreciated by the sections of the community concerned. The native female ward has also been considerably enlarged, so that there is now accommodation for 35 patients.

Umtali Hospital.—Total admissions at 1,016 are practically the same as the previous year (1,007). Of these, Europeans accounted for 365, a decrease of 30 on 1931; natives, at 651, an increase of 39. Out-patients treated show a satisfactory increase from 695 to 911; 54 were European and 857 natives, and the total attendances 2,893.

The Operating Theatre was in greater use than in any year previously, but the increase was entirely for minor operations. Of the 274 operations performed, 76 only were classified as major.

Gwelo Hospital.—Total admissions (920) were 70 in excess of 1931. The number consisted of 381 Europeans and 539 natives. The Out-Patient Department continues to do excellent work, 391 Europeans and 1,272 natives being treated.

The number of operations performed shows an increase to 236. This total includes European operations: Major 67, minor 77; Natives, major 38, minor 54. This increase in surgical work has led to considerable difficulty with regard to private ward accommodation, though the general ward facilities for Europeans are adequate.

Plans for a new Native Hospital are in active preparation and the building should be completed within the next year.

Gatooma Hospital.—The 324 admissions show an increase over 250 in 1931 and 290 in 1930. The natives admitted numbered 618 as against 578. A total of 132 operations were performed (Europeans, major 16, minor 46; Natives, major 11, minor 59). In addition a considerable number of instrumental labours were conducted in the native wards.

In the Venereal Diseases Hospital 859 cases were treated.

Sinoia Hospital.—The admissions to this Hospital have regained their former level after the temporary drop last year; 193 Europeans and 458 natives admitted constitute gains of 38 Europeans and 59 natives.

The number of operations has risen from 76 to 116; of these 28 were European and 88 native.

Fort Victoria Hospital.—The decline in European admissions to this Hospital which has been noted for several years past was still evident, though last year the figure of 134 was only 5 behind that of 1931. Native admissions at 319 were 38 below the previous year, but 81 more than in 1930.

Enkeldoorn Hospital.—The figures of this Hospital reflected the increased activity which began with the opening of the new building in 1931;? In the year 1929
under review 161 Europeans and 435 natives were admitted; increases of 30 and 278 respectively. The great increase in native work has necessitated plans being drawn up for enlargement of the wards and this work will be carried out early in 1933.

Shamva Hospital.—There has been a decided increase in the work done at this hospital during the last year, 114 Europeans admitted being 41 more than in 1931 and the 433 natives an increase of 9. Of the 433 natives, 162 were treated in the Venereal Disease Clinic.

Gwanda Hospital.—Here also the work has increased, for, whilst the 59 European admissions were but 2 more than in 1931, the native figure of 743 showed a rise of 304. This may be attributed largely to the increase in venereal disease patients, who numbered 498 out of the total.

Ingutsheni Mental Hospital.—There were 103 admissions during the year under review—the 23 Europeans being the same figure as last year, and the 80 natives 19 less than in 1931. In all, 433 cases were treated, and the recovery rate rose from 31.14 per cent. to 35.92 per cent.

The occupational therapy, which has been an excellent feature of this hospital for some years, was continued and resulted in valuable supplies from farm and garden being available for the patients. A new dormitory for native male patients was completed during the year.

The growth of this institution since 1925 may be gauged from the facts that the number of Europeans treated per annum has risen by 100 per cent., and of natives by 62.2 per cent. Ingutsheni Hospital is further considered under the section of this report dealing with mental diseases, Chapter III.

Ndanga Native Hospital.—There has been a slight diminution of activity in this important native centre during the year, as evidenced by a decline of 106 admissions to 625. Total cases treated numbered 757.

It is the intention of the Government to institute in this area a scheme for the treatment of natives by means of a small central hospital, with outlying dispensaries under the care of native orderlies, the whole to be in charge of the Government Medical Officer of the district.

CHAPTER V.—ADMINISTRATIVE.

(1) STAFF.

Southern Rhodesia Medical Department.—The staff of the Department is as follows:—

(1) Doctors (whole-time 28, part-time 6)	34
(2) Dentists	2
(3) Government Analyst	1
(4) General Nurses	184
(5) Mental Nurses	14
(6) Other European staff	48
(7) Asiatic and Native staff	290
Total	573

(2) REVENUE AND EXPENDITURE.

Total expenditure	£146,887
Total revenue	31,037
Net balance of expenditure	£115,850

(3) SOUTHERN RHODESIA NURSING SERVICE.

There are 184 nurses employed in Government hospitals, of whom 98 are qualified nurses and 80 are student nurses in training. There is a keen demand for vacancies as student nurses, 227 applications being received for 33 appointments. Preference is given to daughters of persons who are living or who have lived in the Colony.

An important advance was made during the year in the holding of nursing examinations for the first time by the Southern Rhodesia Medical Council, who now grant their own certificate of training. This certificate is reciprocally recognised by the Medical Council of the Union of South Africa and by the General Nursing Council of England and Wales, and will enable its holders to practise in these countries. Examinations are held twice a year, in April and October, the standard of knowledge required being kept similar to that in Great Britain. It is hoped that the British Medical Association and the Medical Council will offer gold medals during the coming year. A high proportion of the students who qualify are absorbed into the permanent trained staff of the Government.

The results of the examinations were as follows:—

	Number of candidates.	Number successful.	Number unsuccessful.
Preliminary Examination	22	19 (1 with honours)	3
Final Examination	26	16	10

The Government have devoted much attention during the last few years to seeing that the nursing staff are provided with comfortable quarters. The buildings recently erected for this purpose by the Director of Public Works compare favourably with those obtaining in any other parts of the Empire.

Encouragement is given to nurses on completion of training to proceed overseas for post-graduate study. The Beit Trustees have already generously assisted in this direction, and it is hoped that they will be able to make some permanent arrangement for this purpose. As most of the nurses who proceed abroad for further study return to take places on the Government staff, the Colony is directly benefited thereby.

(4) MEDICAL COUNCIL.

In 1932 the Medical Council for the first time held examinations and granted certificates to general trained hospital nurses, under the "Nurses, Midwives and Other Persons Registration Act, 1931." The results of these examinations are given under the section of this report dealing with the Nursing Service.

During the year 8 medical practitioners, 6 dentists, 4 chemists, 11 nurses, 4 midwives and 2 mental nurses were added to the register, the total numbers at the 31st December, 1932, being as follows:—Medical practitioners, 123; dentists, 35; chemists and druggists, 67; trained nurses, 77; midwives, 22; mental nurses 3.

(5) HABIT-FORMING DRUGS.

Import Certificates.—61 permits were issued, covering the importation of the following drugs, during 1932, as compared with 73 in 1931:—

Drug	1931 Ounces	1932 Ounces
Medicinal opium	68.2	25.2
*Opium (in tinctures, extracts and other preparations)	489.6	292.42
*Morphine alkaloid	15.8	28.1
Diacetyl morphine (heroin)	0.08	4.08
Cocaine	22.0	30.84
Eukodal	0.93	0.04
Tinct. cannab. indica	—	16.0
Codeine phosphate	4.0	4.87
Codeine	—	2.7
Dionin	1.0	—
Ext. cannab. indica	2.0	—
"Dagga"	16.0	—

Export Certificates.—34 permits were issued, covering the export of the following drugs to Northern Rhodesia and the Union of South Africa, as compared with 31 in 1931.

Drug	1931 Ounces	1932 Ounces
Medicinal opium	8.4	2.37
Opium (in tinctures, extracts and other preparations)	27.8	17.56
Morphine alkaloid	2.6	1.46
Diacetyl morphine (heroin)	0.14	0.76
Cocaine	3.9	0.74

Eleven permits were issued by the Veterinary Department in 1932 for the purchase of 99 ounces of tincture of opium, as against 19 permits for 157 ounces during 1931.

R. A. ASKINS, M.D.,
Medical Director.

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* The difference in the figures for importation of opium in tinctures, etc., is chiefly due to large consignments in transit at the end of 1931.

Nearly a third of the increased figure for morphine is accounted for by larger stocks in hand at the end of 1932.

Table I.

CLASSIFICATION OF DEATHS (EUROPEANS), 1932.

Deaths classified according to the International Classification of Causes of Sickness and Death.

I.—INFECTIOUS AND PARASITIC DISEASES.

Classification No.	Disease.	No. of Deaths.
1, 2	Typhoid and paratyphoid fevers	6
9	Whooping cough	4
10	Diphtheria	6
11	Influenza	17
13	Dysentery	4
15	Erysipelas	3
18	Cerebro-spinal fever	2
23	Tuberculosis of the respiratory system	15
24	Tuberculosis of the central nervous system	2
34	Syphilis	2
36	Purulent infection, septicæmia	3
38	Malaria	25
44: 6	Blackwater fever	12

II.—CANCER AND OTHER TUMOURS.

45	Cancer of the buccal cavity and pharynx	1
46	Cancer of the digestive organs and peritoneum	28
47	Cancer of the respiratory organs	3
48	Cancer of the uterus	3
50	Cancer of the breast	3
51	Cancer of the male genito-urinary organs	3
52	Cancer of the skin	1
53	Cancer of other or unspecified organs	7
55	Tumours of undetermined nature	5

III.—RHEUMATISM, DISEASES OF NUTRITION AND OF ENDOCRINE GLANDS AND OTHER GENERAL DISEASES.

57	Chronic rheumatism, osteo-arthritis	1
59	Diabetes	4
66	Diseases of the thyroid and parathyroid glands	1

IV.—DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS.

70	Hæmorrhagic conditions	1
71	Anæmia, chlorosis	3
73	Diseases of the spleen	2

V.—CHRONIC POISONING.

75	Alcoholism (acute or chronic)	2

VI.—DISEASES OF THE NERVOUS SYSTEM AND SENSE ORGANS.

78	Encephalitis	1
79	Meningitis	4
82	Cerebral hæmorrhage, apoplexy, etc.	13
83	General paralysis of the insane	1
84	Other forms of insanity	3
85	Epilepsy	4
86	Infantile convulsions (age under 5 years)	9
87	Other diseases of the nervous system	1
89	Diseases of the ear and mastoid sinus	1

VII.—DISEASES OF THE CIRCULATORY SYSTEM.

91	Acute endocarditis	2
92	Chronic endocarditis, valvular disease	19
93	Diseases of the myocardium	14
94	Diseases of the coronary arteries, angina pectoris	5
95	Other diseases of the heart	3
96	Aneurysm	1
97	Arterio-sclerosis	5
99	Other diseases of the arteries	1
100	Diseases of the veins (varix, hæmorrhoids, phlebitis, etc.)	1
101	Diseases of the lymphatic system (lymphangitis, etc.)	1
102	Abnormalities of blood pressure	2
103	Other diseases of the circulatory system	1

VIII.—DISEASES OF THE RESPIRATORY SYSTEM.

106	Bronchitis	4
107	Broncho-pneumonia	14
108	Lobar pneumonia	9
109	Pneumonia (not otherwise defined)	15
111	Congestion and hæmmorhagic infarct of lung, etc.	7
114	Other diseases of the respiratory system	4

IX.—DISEASES OF THE DIGESTIVE SYSTEM.

117	Ulcer of the stomach or duodenum	9
119, 120	Diarrhoea and enteritis	14
121	Appendicitis	7
122	Hernia, intestinal obstruction	9
124	Cirrhosis of the liver	2
126	Biliary calculi	6
127	Other diseases of the gall bladder and ducts	2
129	Peritonitis, without stated cause	3

X.—NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA.

130	Acute nephritis	1
131	Chronic nephritis	8
132	Nephritis, not stated to be acute or chronic	3
133	Other diseases of the kidney and annexa	2
135	Diseases of the bladder	1
137	Diseases of the prostate	4
139	Diseases of the female genital organs	2

XI.—DISEASES OF PREGNANCY, CHILDBIRTH AND THE PUERPERAL STATE

141	Abortion (not returned as septic)	2
144	Puerperal hæmorrhage	3
148	Puerperal phlegmasia alba dolens, embolism and sudden death	1
150	Other or unspecified conditions of the puerperal state	1

XII.—DISEASES OF THE SKIN AND CELLULAR TISSUE.

153	Other diseases of the skin and its annexa	1

XIII.—DISEASES OF THE BONES AND ORGANS OF LOCOMOTION.

154	Acute infective osteomyelitis and periostitis	2

XIV.—CONGENITAL MALFORMATIONS.

157	Congenital malformations	6

XV.—DISEASES OF EARLY INFANCY.

158	Congenital debility	3
159	Premature birth	18
161	Other diseases peculiar to early infancy	3

XVI.—OLD AGE.

162	Old age	10

XVII.—DEATHS FROM VIOLENCE.

163	Suicide by solid or liquid poisons and corrosive substances	7
167	Suicide by firearms	11
174	Homicide by cutting or piercing instruments	1
176	Attack by venomous animals	1
180	Conflagration	3
182	Accidental mechanical suffocation	1
183	Accidental drowning	4
184	Accidental injury by firearms	2
186	Accidental injury by fall, crushing, etc.	8
188	Injury by animals (poisoning by venomous animals excepted)	1
191	Excessive heat	1
193	Electricity (lightning excepted)	2
194	Other and unstated forms of accidental violence	1

XVIII.—ILL-DEFINED DISEASES.

199	Sudden death	1
200	Cause of death unstated or ill-defined	4
	Total	485

TABLE II.—Staffing, beds and patients at Government Hospitals, 1932.

Name of hospital.	European nursing staff.	Native staff	No. of beds.		No. of patients treated.			Daily average of patients.			No. of units maintained.			Average No. of days each patient was in hospital.	
			European.	Coloured and native.	European.	Coloured and native.	Total.	European.	Coloured and native.	Total.	European.	Coloured and native.	Total.	European.	Coloured and native.
Salisbury ...	66	69	100	118	1,997	1,522	3,519	84.8	90.7	175.5	31,007	33,118	64,125	15.5	21.7
Bulawayo ...	62	65	110	154	1,773	1,721	3,494	86.0	110.0	196.0	31,720	40,151	71,871	17 8	23.3
Umtali ...	10	22	38	46	378	668	1,046	11.9	23.9	35.8	4,347	8,737	13,084	11.5	13.0
Gwelo ...	8	14	25	52	389	578	967	13.6	37.4	51.0	5,075	13,664	18,739	13.0	23 6
Gatooma ...	7	20	23	96	330	665	995	8.20	68.5	76.7	3,009	18,339	21,348	9.1	27.5
Gwanda ...	3	9	6	28	61	796	857	1.5	48.7	50.2	553	17,827	18,380	9.0	22.3
Enkeldoorn	4	8	15	7	162	439	601	3.8	23.4	27.2	1,417	8,542	9,959	8.7	19.4
Fort Victoria	4	13	15	32	139	342	481	3.45	19.34	22.8	1,263	7,058	8,321	9.0	20.6
Shamva ...	3	12	17	18	115	473	588	3.79	39.0	42.8	1,373	14,235	15,608	11.9	30 0
Sinoia ...	4	12	11	29	195	476	671	5.5	26.85	32.4	1,845	9,801	11,646	9.4	20.5
Ingutsheni	17	23	80	300	88	347	435	68 0	254.0	322.0	24,799	94,740	119,539	281.8	270.1

TABLE III.—Return of Government and free patients treated in Government hospitals during 1932.

Name of hospital.	Number of free patients.			Total No. of units treated.		
	European.	Coloured and native.	Total.	European.	Coloured and native.	Total.
Salisbury	315	917	1,232	9,836	24,965	34,801
Bulawayo	412	1,057	1,469	11,476	32,807	44,283
Umtali	72	547	619	959	7,808	8,767
Gwelo	109	411	520	2,133	11,450	13,583
Gatooma	41	303	344	580	12,695	13,275
Gwanda	18	631	649	250	15,864	16,114
Enkeldoorn	82	397	479	798	8,216	9,014
Fort Victoria	41	249	290	477	6,457	6,934
Shamva	39	321	360	703	8,825	9,528
Sinoia	31	246	277	613	6,676	7,289
Ingutsheni	67	312	379	19,986	85,864	105,850

Table IV.—Statement of expenditure and revenue at Government hospitals for the year 1932.

Name of hospital.	No. of patients treated E. and N.	Vote 7 A & B. Salaries and travelling expenses.	Vote 7 C. Maintenance, drugs and equipment.	Gross expenditure.	Fees charged.	Revenue received.	Deficit of revenue over expenditure	Revenue per cent. of gross expenditure.	Total amount outstanding.	
									End of 1931.	End of 1932.
		£	£	£	£	£	£		£	£
Salisbury	3,519	10,947	15,877	26,824	14,669	11,027	15,797	41.2	8,989	9,244
Bulawayo	3,494	10,010	16,197	26,207	12,120	9,477	16,730	36.2	7,502	7,223
Umtali	1,046	2,465	3,139	5,604	2,087	1,749	3,855	31.2	537	644
Gwelo	967	2,717	2,469	5,186	1,687	1,298	3,888	25.0	763	631
Gatooma	995	2 057	3,299	5,356	1,706	1,354	4,002	25.3	762	807
Fort Victoria ...	481	997	1,055	2,052	490	327	1,725	15.9	517	492
Gwanda	857	737	848	1,585	256	228	1,357	14.4	254	217
Enkeldoorn	601	741	1,059	1,800	283	207	1,593	11.5	143	183
Shamva	588	964	1,228	2,192	480	354	1,838	16.1	420	411
Sinoia	671	854	1,362	2,216	737	302	1 914	13.6	1,604	1,679
Ingutsheni	435	5,040	3,883	8,923	2,038	1,680	7,243	18.8	1,343	1,313
Totals	13,654	37,529	50,416	87,945	36,553	28,003	59,942		22,834	22,844

BUREAU OF HYGIENE & TROPICAL DISEASES
LIBRARY
4 MAY 1933